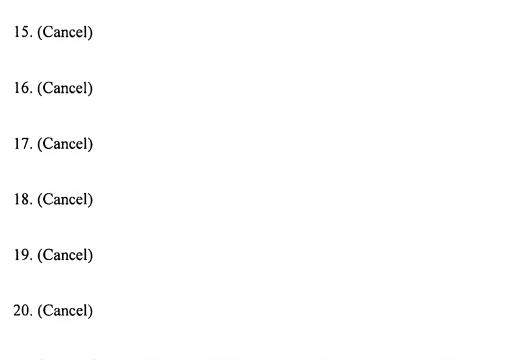
Listing of Claims

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21. (Currently amended) A method of connecting a layer 2 network device with a client through a wireless network, the wireless network comprising at least one layer 3 router, the method comprising:

at least one layer 3 router of the wireless network receiving data packets;

the at least one layer 3 router of the wireless network modifying MAC addresses of the data packets so that the layer 2 network device perceives the wireless network as a layer 2 network.

- 22. (Previously Presented) The method of claim 21, further comprising:
 the wireless network responding to an ARP of the layer 2 network
 device with the MAC address of the client.
- 23. (Original) The method of claim 22, wherein the response is generated by referencing a maintained map of IP and MAC addresses of each client device.

- 24. (Previously Presented) The method of claim 23, wherein a source MAC address of the ARP response is a MAC address of a gateway of the wireless network.
- 25. (Previously Presented) The method of claim 23, wherein the maintained map is a locally maintained anti-ARP database.
- 26. (Previously Presented) The method of claim 21, wherein for an upstream data packet, the wireless network sets a source MAC address of the data packet to a client MAC address.
- 27. (Original) The method of claim 26, wherein setting a source MAC address comprises:

consulting an AARP database; and
extracting a client MAC address that corresponds with the source
IP address of the data packets.

- 28. (Previously Presented) The method of claim 26, further including:
 a gateway inspecting each data packet, detecting a match of a
 packet IP address with an IP address within a filtering list; and
 modifying matched packets before forwarding with a
 corresponding MAC address as specified by the filtering list.
- 29. (Previously Presented) The method of claim 21, wherein for a downstream data packet, a gateway inspects the data packets to determine if a MAC address of any data packet matches a MAC address of the gateway, or a MAC address of a known client device.
- 30. (Cancel)
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32. (Cancel)

33. (Previously Presented) A method of connecting a layer 2 network device with a client through a wireless network, the wireless network comprising at least one layer 3 router, the method comprising:

the wireless network receiving data packets;

the wireless network modifying MAC addresses of the data packets so that the layer 2 network device perceives the wireless network as a layer 2 network;

the wireless network responding to an ARP of the layer 2 network device with the MAC address of the client by referencing a maintained map of IP and MAC addresses of each client device, wherein a source MAC address of the ARP response is a MAC address of a gateway of the wireless network.

34. (Previously Presented) A method of connecting a layer 2 network device with a client through a wireless network, the wireless network comprising at least one layer 3 router, the method comprising:

the wireless network receiving data packets;

the wireless network modifying MAC addresses of the data packets so that the layer 2 network device perceives the wireless network as a layer 2 network;

the wireless network responding to an ARP of the layer 2 network device with the MAC address of the client by referencing a maintained map of IP and MAC addresses of each client device, wherein the maintained map is a locally maintained anti-ARP database.

35. (New) The method of claim 21, wherein the wireless network comprises a wireless mesh network, and the wireless network receiving data packets comprises:

a first layer 3 access node receiving data packets from a client device through a wireless link;

a layer 3 gateway receiving the data packets from at least one of the first layer 3 access node and another layer 3 access node through another wireless link;

and wherein the wireless network modifying MAC addresses of the data packets so that the layer 2 network device perceives the wireless network as a layer 2 network, comprises;

the layer 3 access node modifying MAC source addresses of the data packets from a MAC address of the client device to a MAC address of the layer 3 access node;

the layer 3 gateway modifying the MAC source addresses of the data packets from a MAC address of at least one of the first layer 3 access node and another layer 3 access node to a MAC address of the client device.

36. (New) The method of claim 35, further comprising the layer 3 gateway obtaining the MAC address of the client device, comprising:

consulting an AARP database, determining the MAC address corresponding to a queried IP address.

- 37. (New) The method of claim 36, wherein the wireless network comprises a distributed network of AARP servers that may query each other and synchronize there address maps to satisfy AARP queries.
- 38. (New) The method of claim 36, wherein AARP database comprises an address mapping table that is synchronized across multiple gateways of a wireless mesh network.
- 39. (New) The method of claim 33, further comprising:

a layer 3 gateway of the network receiving an ARP request on an upstream interface of the layer 3 gateway;

the layer 3 gateway determining whether an IP address in which resolution is being requested by the ARP request matches an interface address of the layer 3 gateway;

if the request does match the interface address, then the layer 3 gateway sending an ARP response with the gateway interface MAC address;

if the request doesn't match the interface address, then determining whether the IP address of the ARP request matches an IP address of a client device as determined from an AARP table;

if the request doesn't match at least one of the interface address and the IP address, then dropping the ARP request packet;

if the request does match at least one of the interface address and the IP address, then the layer 3 gateway constructing an ARP response with the MAC address set to the client device MAC address;

setting a source MAC address of the ARP response to be the client device MAC address.

40. (New) The method of claim 35, further comprising:

a layer 3 gateway of the network receiving an ARP request on an upstream interface of the layer 3 gateway;

the layer 3 gateway determining whether an IP address in which resolution is being requested by the ARP request matches an interface address of the layer 3 gateway;

if the request does match the interface address, then the layer 3 gateway sending an ARP response with the gateway interface MAC address;

if the request doesn't match the interface address, then determining whether the IP address of the ARP request matches an IP address of a client device as determined from an AARP table;

if the request doesn't match at least one of the interface address and the IP address, then dropping the ARP request packet;

if the request does match at least one of the interface address and the IP address, then the layer 3 gateway constructing an ARP response with the MAC address set to the client device MAC address;

setting a source MAC address of the ARP response to be the client device MAC address.